

# Barbecue and Utility Furnaces



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## ON THE COVER

This outdoor barbecue pit is made of sandstone set together with cement and lined with five inches of reinforced concrete. The top of the built-in oven attached to the chimney serves as a convenient shelf. The oven is floored with sheet metal. The fire and smoke pass under the metal floor of the oven on the way up the chimney. Heat in the oven is sufficient to cook food. Food may be kept hot in the oven until served. Ventilation is controlled by a small door at the front.

A ledge around the fire box holds up the rack or grate of metal rods.

The top opening of this chimney is two and one-half by twelve

inches. The top opening extends to the floor of the furnace and slopes and enlarges as it nears the ground. This arrangement makes a good suction to carry off smoke.

The floor of the furnace was lined originally with coarse gravel. The first fire caused it to explode and break up but thereafter gave no further trouble.

This furnace is used not only for picnics but is put to practical uses such as burning trash.

Scene at the home of Mr. and Mrs. Fred W. Jensen, College Station, Texas. Left to right: Tyleen, Bernyce, and their father Mr. Jensen.

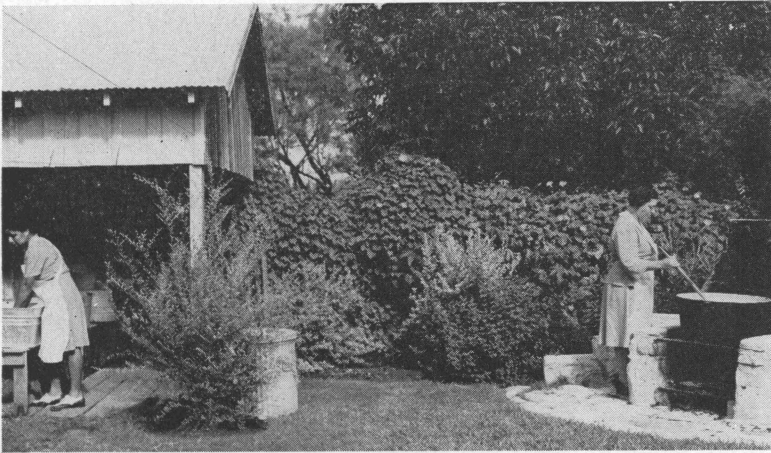
# Barbecue and Utility Furnaces

Sadie Hatfield, Extension Specialist in Landscape Gardening

Barbecue pits and furnaces have grown in popularity the last few years. 4-H girls and other landscape demonstrators rarely consider their yards complete until they have some kind of outdoor cooking arrangements for the entertainment of their families and friends. Furnaces are appreciated as fire prevention measures for jobs which require a fire. Owners of picnic furnaces have been astonished to learn that they are useful in many

ways besides broiling meats or toasting marshmallows.

When the barbecue furnace is located in the shade it is often used in making jelly and preserves. Meats, vegetables and fruits have been canned on outdoor furnaces to avoid disturbing kitchen routine. In summer, they make it possible to enjoy the cooler outdoor atmosphere for hot jobs. These furnaces are used in winter for heating water and rendering lard.



This furnace is used for heating water on wash days and for broiling steaks, barbecuing meats, and cooking stews on picnic days. The stone paving around the furnace is an added convenience. There are two grates: one holds the wood up for good circulation of air, and one holds vessels for heating water or holds meats for cooking. The top of the broad flat walls make good places to set vessels. The furnace is made of native limestone and concrete. Evergreen sumac, privet and ceniza are growing to screen the wash place from the furnace.

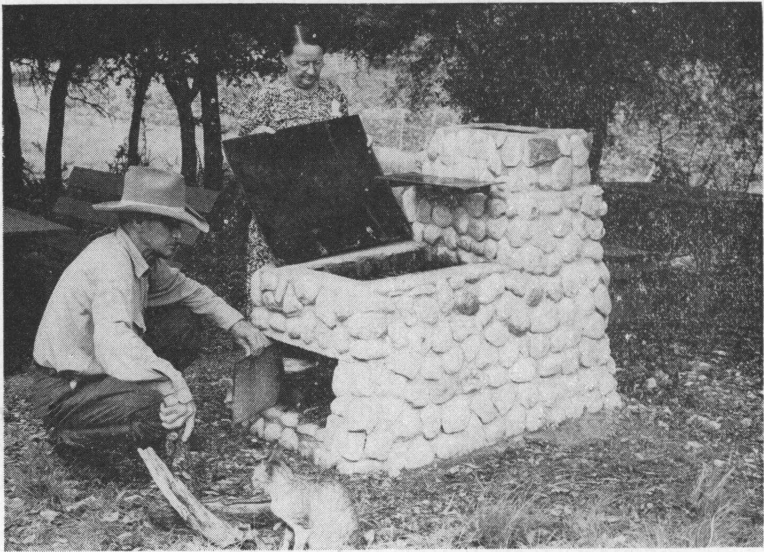
Home of Mr. and Mrs. Henry Windrow, Hondo, Texas.

## Plan the Furnace for Convenience

It is best to let the furnace face prevailing summer winds. For example, in many parts of Texas the summer breeze comes from the south, then the chimney should be at the north side of the furnace. As far as design is concerned it is better usually to let the lines of the furnace parallel those of the yard in which it is placed.

A furnace used for cooking should be placed with some thought

for the work required to carry vessels and food from the kitchen. If it is a part of entertainment feature of the landscape it should be convenient to the outdoor living room. It should be wholly or partially screened from the remainder of the private area, the public area and service area, by shrubs, vines or trees. Where space is limited, it may be made a part of the recreation areas or a part of the service area.



A furnace of many uses, made of river rocks, can be set together with concrete and lined with fire brick. The raised interior gives good drainage. A discarded iron stove door makes a secure front closing. Home made strap hinges form supports for a metal warming shelf. The large piece of metal is used to cover the furnace when starting a fire and for supporting cooking vessels. When a large vessel is to be used on the furnace the shelf may be removed and the supports turned out of the way. The small top opening of the chimney helps make a good draft. Three by twelve inches is a good size. The wide flat walls and chimney protections provides places to set utensils. Metal rods set into the concrete form a grill for cooking meats.

Home of Mr. and Mrs. J. R. Harwood, Kerr County.

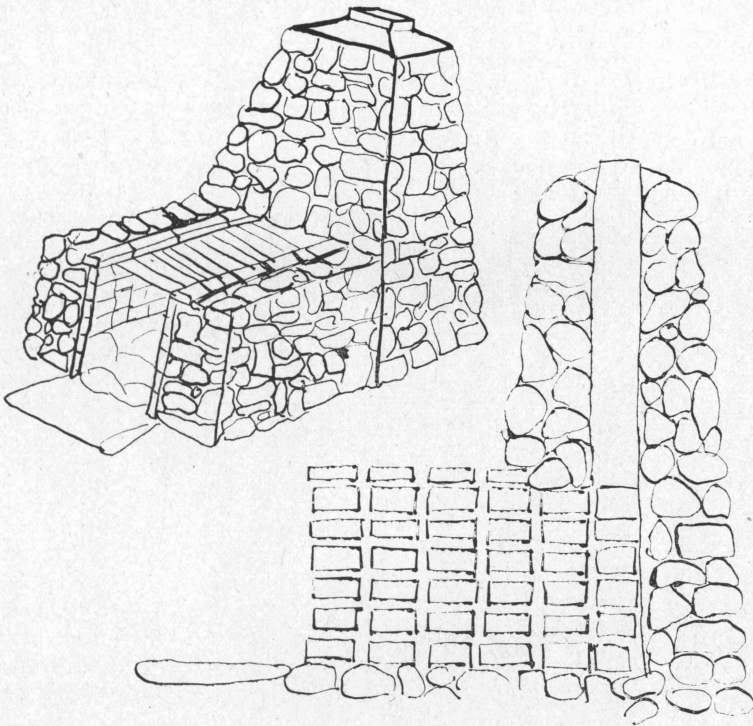


## Plan for Durability and Convenience

The area about the furnace should be paved with bricks, stones or concrete blocks to make work easier in wet weather, or the soil may be topped with gravel or sand.

The soil upon which the furnace is built should be a little higher than the surrounding soil to pre-

vent water from collecting and standing inside. Soils which crack when they dry may cause the furnace to crack. An eight-inch foundation of native rock and sand will prevent this. It helps to have several square feet about the furnace well drained so that it may be used immediately after rains.



A cross section of an outdoor furnace showing:

1. The fire brick lining.
2. The extension of the fire box to the back side of the chimney opening to give good ventilation.

The chimney may have a damper half way up if desired.

From Blue Print 5609, Texas A and M. Extension Service. Chimney 6 feet 6 inches tall. Flue 6 inches square inside. Fire box 18 inches wide, 4 feet 2 inches deep, 2 feet 8 inches high on the inside.

## Protect it From Weather

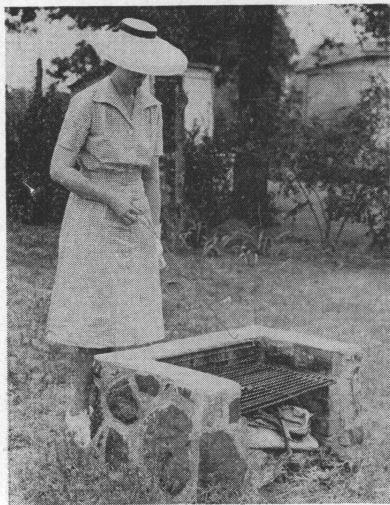
Trees and shrubs may be placed to make the barbecue furnace a more comfortable place to work or play by planting trees and shrubs to form a windbreak. Windbreaks make work and entertainment more pleasant in cold, windy weather. Care should be exercised to arrange plants so that summer breeze may be enjoyed. Hardy plants may be used to screen the

area and at the same time lessen the force of disagreeable winds. Privets, pines, yaupons, cedars and other evergreens may make up the greater portion of these plantings. Some flowering plants such as desert willow, salt cedar, redbud, spirea and other shrubs may be used to add variety and furnish flowers. Shade trees are necessary for summer time.

## Build the Kind Needed

The furnace should be large enough to accommodate the uses for which it is made and small enough to harmonize with the house. It should be high enough

for convenience in working about it. It may or may not have a chimney. It is much more comfortable to work around one which has a chimney a little more than head high to carry away smoke. Do not make the bottom opening of the chimney too small nor too low; remember that smoke goes up. Native stone picked up in fields and pastures makes attractive structures. Brick and concrete blocks are easier to obtain in some places. Adobe and concrete reinforced with metal have been used successfully.



A small open type furnace made of red stones is lined with fire brick. It was made small for the convenience of children. The grate which is supported by a ledge of brick may be taken out. The long bent wire is used for toasting food over coals. Windbreak, screen and shade may be planted later.

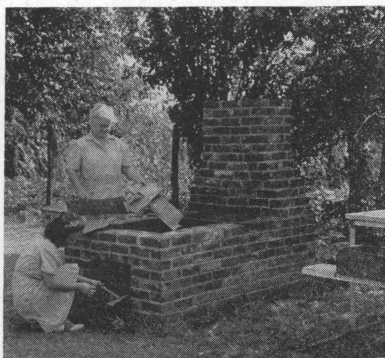
Home of Mrs. Steve Arthur, Tarrant County.

To make the furnace, use any type of brick, pieces of concrete or stones, except sand stone. Sand stone breaks when heated by direct flames. However, it can be used if the furnace is lined with fire brick or reinforced concrete. If the walls are lined with fire brick the furnace will last longer, regardless of the outside covering. The floor should slant towards the front enough to drain water. The floor may be of fire brick, gravel, sand, earth or concrete. Earth floor may wear down low enough to hold

water unless it is built up occasionally.

Mortar for holding brick or stone together should be made of one part cement and three parts of good mortar sand. Cleanliness of water, cement and sand is essential. A smoother concrete will be made by adding one-tenth part lime to the sand and cement and mixing thoroughly. If cement is not obtainable or if it cracks easily, glade mud may be used. To find glade mud, sometimes called lake clay, select a low spot where rain water collects and evaporates. Take up the small pieces of mud that dry and curl up. Remove all coarse particles. Leave only the fine sticky soil at the top of the pieces. Mix with enough water to make it stick together and fill the spaces between the bricks, rocks or concrete blocks. A very good furnace can be made without mortar of any kind. Stack the rocks or bricks into the desired form. This kind is easily moved to a new location.

A grate or an arrangement of stones to hold the wood off the ground helps to make a better fire. If metal rods are set into concrete the ends should be wrapped with paper. This gives room



A large all purpose furnace made of brick is shown here. Screened from the house by fruit trees and other plantings, it is partially shaded. The chimney is of a good height to carry off smoke.

Home of Mr. and Mrs. Ebner Enderbee, Cooke County.

for expansion and prevents heated rods from cracking the concrete. The rods may be moved back and forth a little in the wet mortar to make a space for expansion. This should be done just before the concrete hardens. Metal rods may be made of straightened wagon tires, old wagon rods or other suitable scrap metal.

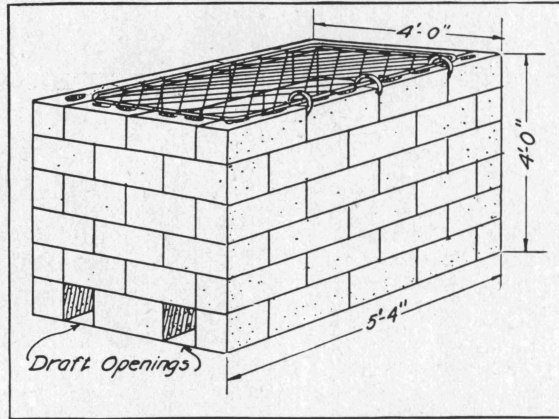
In building a furnace, remember that places will be needed for setting food and vessels which are being handled. Wide walls with flat surfaces are often used.

## Manage and Use it Well

Since barbecue pits and furnaces are often used for burning trash, it is important to keep them free of half burned trash. If this is allowed to accumulate it is unattractive, causes bad odors, attracts flies and is unsanitary. It is sometimes better to build a trash burner.

Closing a furnace tightly when a big fire is blazing may cause it to crack. After a fire has burned to coals it may be covered with safety.

Charcoal gives a quick heat for broiling. It is better on windy days than wood. On quiet days wood may be more satisfactory.



A trash burner is easily constructed from materials suitable for barbecue furnaces. A grate about 8 inches from the bottom to hold trash off of the ground, and two draft openings, at one end, make a quick job of burning rubbish. The top should be covered with a lid of small mesh wire to prevent the escape of burning particles. Hardware cloth makes a good lid to hold in burning particles and decrease fire hazards. It should be made to fasten down or be weighted to keep it in place. The end opposite to the draft openings or one side of the furnace should be fitted with a door for convenience in removing ashes and other residue.

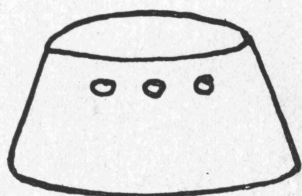
Some handy utensils are: Long forks, spoons, and wire broilers, all with extra long handles. Tin trays to hold on the lap or wide-arm chairs make serving easier. A large cast iron broiler is useful for hamburgers. Stiff wires bent at the ends may be used for broiling or toasting food.

A furnace is good fire protection because it keeps fire confined to one place. The use of a furnace for heating wash water, for burn-

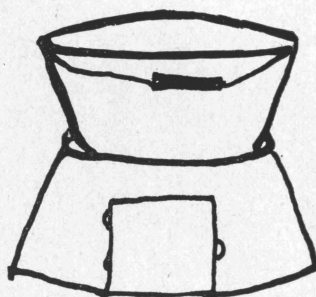
ing trash and for other fires lessens fire hazards. Less fuel is needed than for open fires about wash pots. Fire can be held and directed to the place needed. Special furnaces, indoors or outdoors, for wash pots and other uses are made on the principles outlined above.

Placing lights near the furnace makes it convenient to work or entertain at night.





A temporary furnace may be made by cutting the bottom from a worn out wash tub or an oil drum or other metal vessel strong enough to hold up a pot of water. Cut a door at the front for fuel and holes high at the back for smoke outlets. When the pot is removed this furnace can be used for picnic cooking.



Enclosing a fire will:

keep it from spreading

save fuel

protect children

keep smoke and ashes from blowing into freshly washed clothes

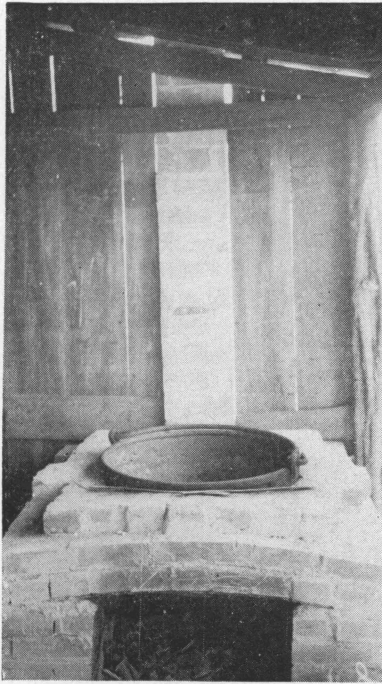
keep clothing of people working from blowing into the fire  
enable work to be done more comfortably and closer to the fire.



A round furnace requires fewer bricks for making and less wood for heating. The furnace is being used for making hominy, at the home of Mrs. John Robert, Fentress, Caldwell County.



It does not require an experienced expert to make a useful furnace.  
Picture from Caldwell County, by courtesy of Gena Thames.



A furnace may be made for inside use as well as outside. It may be under a shed or in a room. It may be arranged for a combination of recreation and work.

Picture from Caldwell County.

#### References:

Extension Service Blue Print 195, Small commercial barbecue pit

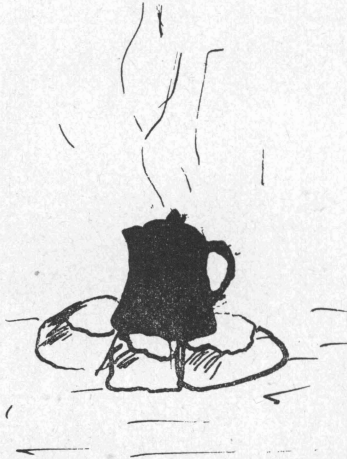
Extension Service Blue Print 196, Large commercial barbecue pit

Extension Service Blue Print 5609, Home size barbecue furnace



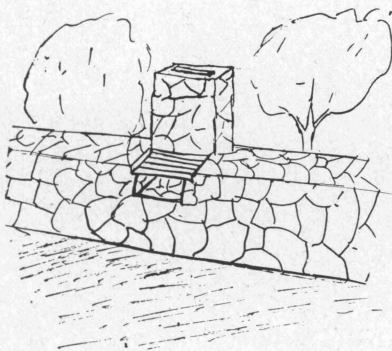
Although a chimney about head high is usually tall enough to carry away smoke, a higher one might be needed in some locations because of air currents. This one will fit into the landscape better when the shrubs and trees near it have grown taller than it is and keep it from being conspicuous.

— Photo from Hunt Co.

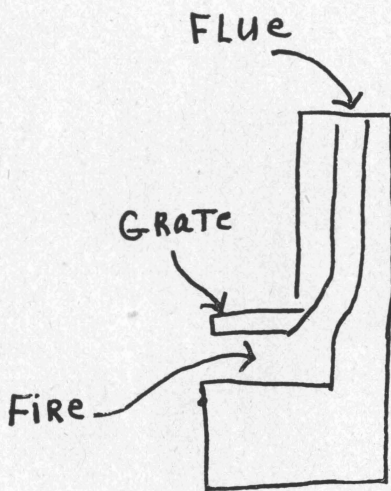


Sometimes a few loose stones arranged for holding vessels over coals is all that is necessary to make a temporary arrangement for outdoor cooking.





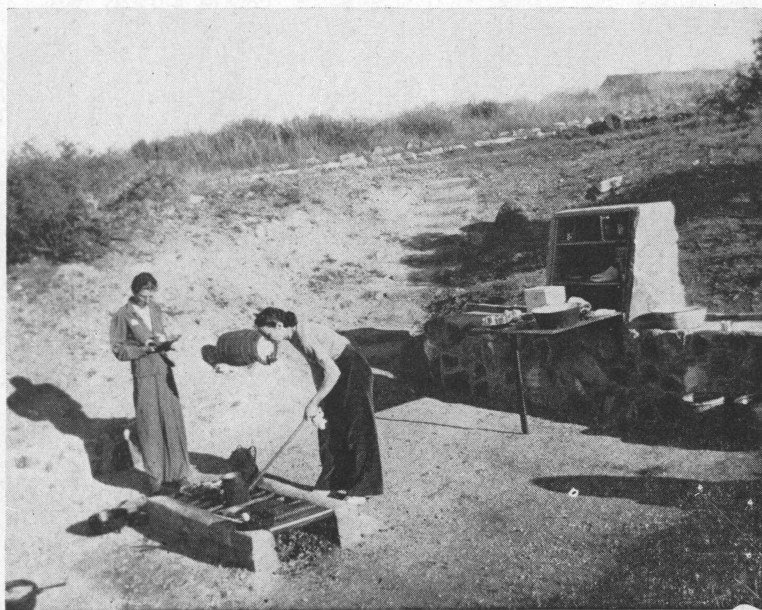
A barbecue furnace may be built in a part of a wall or fence. It may or it may not have a chimney and it may be built high or low according to convenience.



A cross section of a furnace, grate, fire box, and chimney built into a wall and above the ground level.

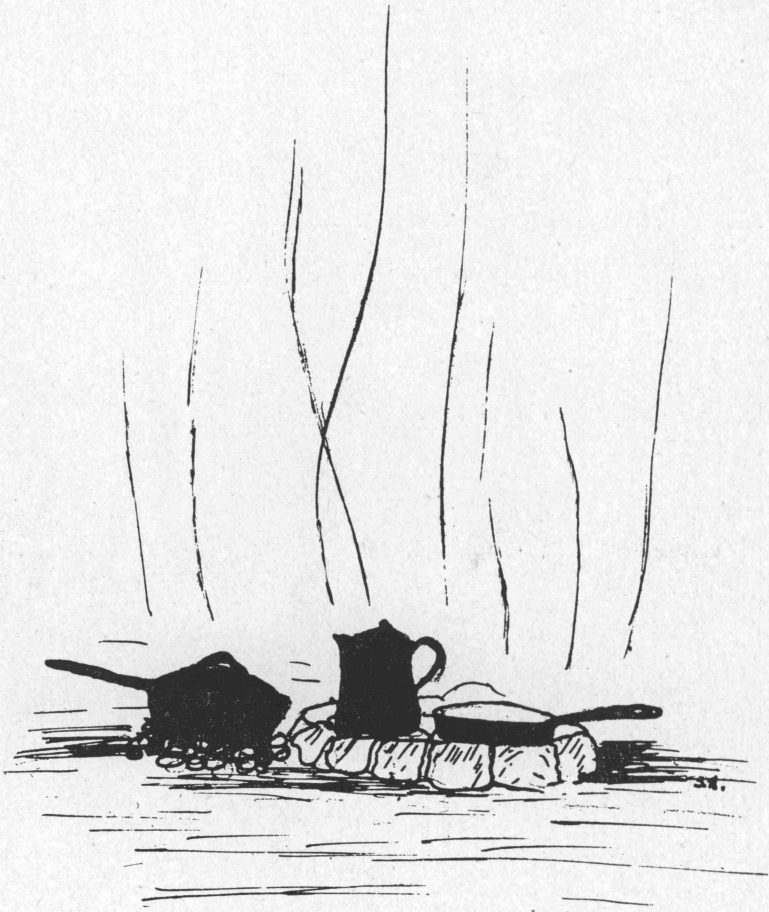


A barbecue area on the side of a canyon is shown above. Notice that stones are used to make terraces for holding soil and moisture about young trees, and to form a level floor for the barbecue area.



Native stone steps lead from the upper level. An old fashioned chuck wagon box was set on the low wall and covered with cemented stones. It is used for storing vessels and supplies. The door makes a convenient table. A keg with spigot protects drinking water. A low, wide rock wall is convenient for many uses. Entertaining in the open like this is pleasant and saves house work.

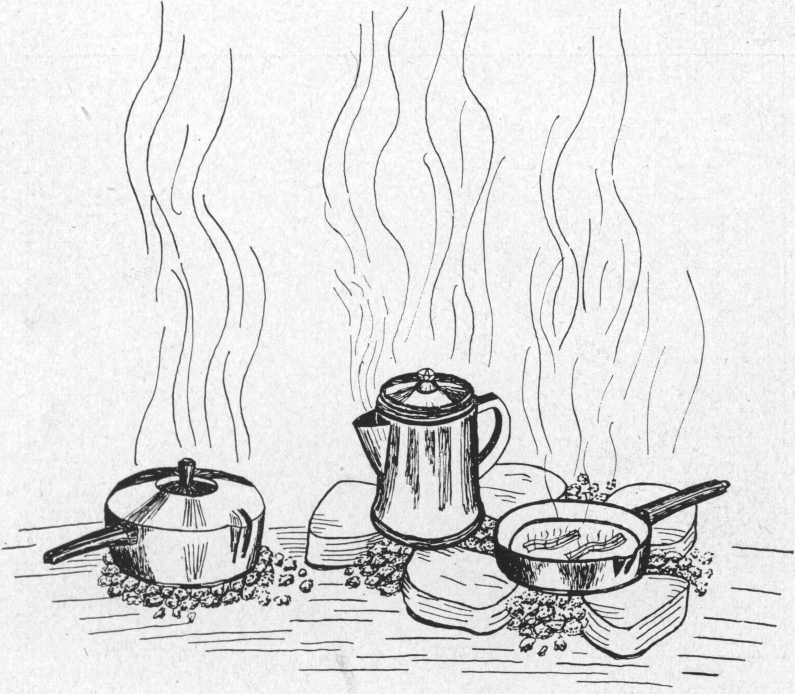
Pictures on page 14 and 15 were taken at the home of Mr. and Mrs. Rudolph Mellard, Spur Ranch, Pecos County.



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